What is Claimed:

1. A water heater comprising:

a tank having a wall defining an interior for holding water; and

a heat exchange assembly positioned at least partially within said interior of said tank, said heat exchange assembly having

a metallic outer tube positioned within said interior of said tank, said outer tube having a wall with an inner surface and end portions positioned within said interior of said tank; and

a metallic inner tube extending within said outer tube and having end portions extending through said wall of said tank, said inner tube having a wall with an outer surface;

wherein a portion of said outer surface of said inner tube contacts a portion of said inner surface of said outer tube, thereby facilitating the transfer of heat between said inner tube and said outer tube; and

wherein an elongated passageway is defined between a portion of said outer surface of said inner tube and a portion of said inner surface of said outer tube, thereby facilitating the flow of fluid along a length of said outer tube and said inner tube.

2. The water heater of claim 1, wherein said outer tube is compressed radially inwardly for contact between said inner surface of said outer tube and said outer surface of said inner tube.

3. The water heater of claim 1, wherein said inner tube is expanded radially outwardly for contact between said outer surface of said inner tube and said inner surface of said outer tube.

4. The water heater of claim 1, wherein said wall of said inner tube is thicker than said wall of said outer tube.

5. The water heater of claim 1, wherein said passageway is at least partially defined by at least one groove formed by said outer surface of said inner tube or by said inner surface of said outer tube.

6. The water heater of claim 5, wherein said groove is spiral.

7. The water heater of claim 5, wherein said groove is formed by said outer surface of said inner tube.

8. The water heater of claim 5, wherein said groove is formed by said inner surface of said outer tube.

9. The water heater of claim 1, wherein said passageway is defined by a gap between said outer surface of said inner tube and said inner surface of said outer tube.

10. The water heater of claim 9, wherein said gap is formed by differences in the cross-sectional shapes of said inner surface of said outer tube and said outer surface of said inner tube.

11. A heat exchange tube assembly comprising:

a metallic outer tube having a wall with an inner surface; and

a metallic inner tube positioned within said outer tube, said inner tube having a wall with an outer surface;

wherein a portion of said outer surface of said inner tube contacts a portion of said inner surface of said outer tube, thereby facilitating the transfer of heat between said inner tube and said outer tube;

wherein an elongated passageway is defined between a portion of said outer surface of said inner tube and a portion of said inner surface of said outer tube, thereby facilitating the flow of fluid along a length of said heat exchange tube assembly; and

wherein said wall of said outer tube is thicker than said wall of said inner tube.

12. A heat exchange tube assembly comprising:

a metallic outer tube having a wall with an inner surface; and

a metallic inner tube positioned within said outer tube, said inner tube having a wall with an outer surface;

wherein a portion of said outer surface of said inner tube contacts a portion of said inner surface of said outer tube, thereby facilitating the transfer of heat between said inner tube and said outer tube;

wherein an elongated passageway is defined between a portion of said outer surface of said inner tube and a portion of said inner surface of said outer tube, thereby facilitating the flow of fluid along a length of said heat exchange tube assembly; and

wherein said passageway is at least partially defined by at least one spiral groove formed by said outer surface of said inner tube or by said inner surface of said outer tube.

13. A method of forming a heat exchange tube assembly comprising the steps of:

inserting a metallic inner tube within a metallic outer tube;

urging a portion of an outer surface of the inner tube and a portion of an inner surface of the outer tube into contact with one another, thereby facilitating the transfer of heat between the inner tube and the outer tube; and

maintaining an elongated passageway between a portion of the outer surface of the inner tube and a portion of the inner surface of the outer tube, thereby facilitating the flow of fluid along a length of the heat exchange tube assembly.

14. The method of claim 13, wherein said urging step comprises the step of compressing the outer tube.

15. The method of claim 14, wherein said compressing step comprises passing the outer tube through a die.

16. The method of claim 13, wherein said urging step comprises the step of expanding the inner tube.

17. The method of claim 16, wherein said expanding step comprises pressurizing an interior of the inner tube.

18. The method of claim 17, wherein said pressurizing step comprises positioning pressurized liquid in the interior of the inner tube.

19. The method of claim 16, wherein said expanding step comprises forcing a mandrel through an interior of the inner tube.

20. The method of claim 13, wherein said maintaining step comprises forming a groove on the outer surface of the inner tube or the inner surface of the outer tube.

21. The method of claim 20, wherein said maintaining step comprises defining or retaining a helical groove on the outer surface of the inner tube or the inner surface of the outer tube.

22. The method of claim 20, wherein said maintaining step comprises defining or retaining a groove on the outer surface of the inner tube.

23. The method of claim 20, wherein said maintaining step comprises retaining a groove on the inner surface of the outer tube.

24. The method of claim 13, wherein said maintaining step comprises retaining a gap between the outer surface of the inner tube and the inner surface of the outer tube.

25. A water heater comprising:

a tank having a wall defining an interior for holding water to be heated; and

a heat exchange tube assembly extending in said interior of said tank and having:

a metallic outer tube having a wall with an inner surface;

a metallic inner tube positioned within said outer tube, said inner tube having a wall with an outer surface and defining an interior for containing fluid, wherein an elongated passageway is defined between said outer surface of said inner

tube and said inner surface of said outer tube, thereby facilitating the flow of fluid along a length of said heat exchange tube assembly; and

a fitting extending into the interior of said tank, said fitting being sealingly coupled to said outer tube and to said wall of said tank, thereby preventing the mixing of fluid in said elongated passageway and water in said tank, said fitting at least partially defining a fluid flow passageway extending between said elongated passageway and an exterior of said tank, thereby facilitating the flow of fluid from said elongated passageway to said exterior of said tank.

26. The water heater of claim 25, wherein said fitting is welded to said outer tube.

27. The water heater of claim 25, wherein said fitting is welded to said tank.

28. The water heater of claim 25, wherein said fitting is welded to said inner tube.

29. The water heater of claim 25, wherein said fluid flow passageway comprises an annular passage defined by a space between an inner surface of said fitting and said outer surface of said inner tube.

30. The water heater of claim 25, wherein said fluid flow passageway comprises at least one aperture oriented at an angle relative to an axis of said inner tube.

31. The water heater of claim 30, wherein said aperture is oriented substantially perpendicular relative to said axis of said inner tube.

32. A method of manufacturing a water heater comprising the steps of:

inserting a metallic inner tube within a metallic outer tube, thereby forming a double-walled heat exchange tube; and

positioning the heat exchange tube in a tank having a wall defining an interior for holding water, such that end portions of the outer tube are within the interior of the tank and end portions of the inner tube extend through the wall of the tank.